Complete Summary

GUIDELINE TITLE

Allergic rhinitis.

BIBLIOGRAPHIC SOURCE(S)

University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System; 2002 Jul. 12 p. [3 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Allergic rhinitis

GUIDELINE CATEGORY

Diagnosis
Management
Treatment

CLINICAL SPECIALTY

Allergy and Immunology
Family Practice
Internal Medicine
Otolaryngology
Pediatrics

INTENDED USERS

Advanced Practice Nurses
Nurses
Pharmacists
Physician Assistants
Physicians

GUIDELINE OBJECTIVE(S)

To assist in the diagnosis and cost-effective treatment of allergic rhinitis

TARGET POPULATION

Adults and children with presumed or confirmed allergic rhinitis

INTERVENTIONS AND PRACTICES CONSIDERED

Diagnosis

1. History and examination
2. Symptom diary
3. Medication trial
4. Allergy testing (skin tests and RAST [radioallergosorbent test])

Therapy

1. Avoidance of allergens
2. Oral first-generation (generally over-the-counter) antihistamines and decongestants, such as chlorpheniramine, clemastine (Tavist-1), diphenhydramine (Benadryl), dexchlorpheniramine (Polaramine), azatadine (Optimine), hydroxyzine (Atarax), phenindamine (Novahist), and pseudoephedrine
3. Other medications
    - Nasal corticosteroids, such as fluticasone propionate (Flonase); mometasone (Nasonex); flunisolide (Nasalide, Nasarel); beclomethasone dipropionate aerosols and sprays (Beconase, Vancenase, B-AQ, V-AQ); and budesonide (Rhinocort)
    - Oral second-generation antihistamines and antihistamine/decongestant combinations, such as fexofenadine (Allegra), cetirizine (Zyrtec), fexofenadine and pseudoephedrine (Allegra D), loratadine (Claritin), loratadine and pseudoephedrine (Claritin D), and desloratadine (Clarinex)
    - Intranasal antihistamines, such as azelastine (Astelin)
    - Intranasal decongestants, such as oxymetazoline (Afrin)
    - Nasal cromolyn sodium (Nasalcrom)
    - Ocular decongestants, such as naphazoline (e.g., Albalon) oxymetazoline (Visine LR, OcuClear), phenylephrine (e.g., Mydfrin), tetrahydrozoline (e.g., Visine)
    - Ocular antihistamines, such as levocabastine (Livostin), emedastine (Emadine), olopatadine (Patanol)

- Ocular non-prescription antihistamine/decongestant combinations, such as naphazoline & pheniramine (Naphcon-A) and naphazoline & antazoline (Vascon-A)
- Ocular non-steroidal anti-inflammatory drugs (NSAIDs), such as ketorolac (Acular)
- Ocular mast cell stabilizers, such as lodoxamide tromethamine (Alomide), and cromolyn (Opticrom)
- Anticholinergics, such as ipratropium bromide (Atrovent)

4. Nasal saline
5. Immunotherapy

Referral to Allergist/Specialist

Special Considerations in Pediatrics, Pregnancy, Severe Asthma, and Severe Atopic Dermatitis Patients

Controversial Areas, Such as Cytotoxicity Testing, Provocative and Neutralization Testing, and Measurement of Specific and Non-Specific Immunoglobulin G4 (IgG4) are Considered but not Recommended.

MAJOR OUTCOMES CONSIDERED

- Accuracy and sensitivity of diagnostic tools
- Incidence, frequency, and severity of allergy symptoms, such as itching, sneezing, rhinorrhea
- Medication side effects

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The structured literature search for this project was conducted in 1998 using the major keywords: allergic rhinitis, avoid, control triggers, clinical trials-phase IV, cohort studies, controlled clinical trials, multicenter studies, randomized controlled trials, observational trial, and meta analysis on Medline. The full search was a single cycle with a repeated medication update in 2000 and ongoing literature surveillance by team members through July 2002.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

Skin testing:
Skin tests are more sensitive, faster, and more cost effective than RAST testing.

Treatment strategy and cost:
Pharmacologic control of allergic rhinitis is expensive and may carry some long term side effects, especially in children. Immunotherapy (allergy shots) may provide significant long-term control of symptoms at a reduced cost and without the risks of medication, but requires multiple office visits, which compromises patient compliance. These issues must be weighed when considering treatment options.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The guideline was reviewed at clinical conferences of the University of Michigan Health System (UMHS) family medicine, general medicine, pediatrics, otolaryngology, and by the Guidelines Workgroup (community and UMHS physicians) of MCARE (a managed care organization).

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Note from the National Guideline Clearinghouse (NGC): The following key points summarize the content of the guideline. Refer to the full text for additional information, including detailed information on dosing, possible side effects, and cost of medications; avoidance of allergens; skin testing; immunological therapy; and considerations for special patient populations (i.e., pediatrics, pregnant patients, patients with severe asthma or severe atopic dermatitis). Definitions for the levels of evidence (A, B, C, D) are provided at the end of the Major Recommendations field.

Diagnosis

- Allergic rhinitis is an antigen-mediated inflammation of the nasal mucosa that may extend into the paranasal sinuses. Diagnosis is usually made by history and examination ("itchy, running, sneezy, stuffy"). A symptom diary and a trial of medication may be helpful to confirm a diagnosis. Allergy testing is rarely helpful in diagnosis. Allergy testing is not commonly needed to make the diagnosis, but may be helpful for patients with multiple potential allergen sensitivities.

Therapy

The goal of therapy is to relieve symptoms.

- Avoidance of allergens. Avoidance of allergens is the first step in this process. (Refer to text in the original guideline document for details.) If avoidance fails:
- Over-the-counter (OTC) antihistamines and decongestants. Over-the-counter antihistamines and decongestants should be tried initially, as they provide relief in most cases. If symptoms persist, consider the following options:
- Prescribed medications
    - Nasal corticosteroids. Nasal corticosteroids are considered the most potent medications available for treating allergic rhinitis [A]. They control itching, sneezing, rhinorrhea, and stuffiness in most patients, but do not alleviate ocular symptoms. They have a relatively good safety profile, but long-term perennial use, as well as prolonged use in children, may be problematic.
    - Oral antihistamines. Oral antihistamines prevent and relieve itching, sneezing, and rhinorrhea, but tend to be less effective for nasal congestion [A]. If an initial trial with a first-generation (OTC) antihistamine is unsuccessful or poorly tolerated, a second-generation antihistamine may be substituted. Second generation antihistamines are less sedating, but are expensive.
    - Intranasal antihistamines. Intranasal antihistamines, while effective in treating the nasal symptoms associated with seasonal and perennial rhinitis and nonallergic vasomotor rhinitis, offer no therapeutic benefit over conventional treatment [A].

- Oral decongestants. Oral decongestants decrease swelling of the nasal mucosa which, in turn, alleviates nasal congestion [A]. They are contraindicated with monoamine oxidase inhibitors (MAOIs), uncontrolled hypertension, and severe coronary artery disease. Geriatric patients may be more sensitive to the effects of decongestants.
- Nasal cromolyn. Nasal cromolyn is less effective than nasal corticosteroids [A]. Cromolyn is a good alternative for patients who are not candidates for corticosteroids. It is most effective when used regularly prior to the onset of allergic symptoms.

Referral

Appropriate criteria for referral to a colleague who specializes in the diagnosis and treatment of allergies may include [D]:

- Consideration of allergy skin/radioallergosorbent test (RAST) testing for better allergen identification for avoidance and/or immunotherapy, because of:
  - Failure of medical therapy.
  - Perennial allergic rhinitis that is moderate to severe.
- Associated conditions such as chronic or recurrent acute rhinosinusitis.
- Any severe allergic reactions causing patient or parental anxiety.

Controversial Issue: Medication Versus Immunotherapy

A formal risk/cost-benefit analysis of medication therapy versus immunotherapy (allergy shots) has not been performed; however, patients with moderate to severe symptoms that continue year round (i.e., perennial allergic rhinitis) may benefit most from immunotherapy [D].

Definitions:

Levels of Evidence

Levels of evidence reflect the best available literature in support of an intervention or test.

A. Randomized controlled trials
B. Controlled trials, no randomization
C. Observational trials
D. Opinion of expert panel

CLINICAL ALGORITHM(S)

The original guideline contains a clinical algorithm for treatment of allergic rhinitis.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see Major Recommendations).

Conclusions were based on prospective randomized clinical trials. In the absence of randomized controlled trials, observational studies were considered. If none were available, expert opinion was used.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Overall Benefits

- Accurate diagnosis and cost-effective treatment of allergic rhinitis
- Relief of symptoms of allergic rhinitis

Nasal Corticosteroids

- Symptom control of itching, sneezing, rhinorrhea, and stuffiness with a relatively good safety profile.
- Newer, more potent formulations offer the advantages of once daily dosing, minimal to no systemic absorption, and demonstrated tolerability in pediatric patients.
- Aqueous formulations are preferred because they are less irritating to the nasal mucosa.

Oral Antihistamines

- Reduce symptoms of itching, sneezing, rhinorrhea, and allergic conjunctivitis.
- Second generation antihistamines are less sedating than first-generation antihistamines.

Oral Decongestants

Decrease swelling of the nasal mucosa, which, in turn, alleviates nasal congestion.

POTENTIAL HARMS

Allergy Testing

Anaphylaxis may occur rarely.

Medication Side Effects

Refer to Table 7 in the original guideline document for details on medication side effects.

Nasal Corticosteroids

- The incidence of adverse effects is between 5 to 10%; local effects most commonly reported include sneezing, stinging, and burning or irritation.
- Long-term perennial use, as well as prolonged use in children, may be problematic.
- Potential side effects of nasal/topical corticosteroids include pharyngitis, septal perforation, reduced sense of smell, unpleasant taste or loss of taste.
- Potential side effects of ocular corticosteroids include elevated intra-ocular pressure (glaucoma), ophthalmic irritation, or infection (secondary or exacerbation).

Oral Antihistamines

Roughly 10% of patients experience sedation even with "non-sedating" antihistamines.

Oral Decongestants

Urinary retention in elderly males is a common side effect.

Nasal Cromolyn

- The four times daily dosing can cause compliance problems.
- Adverse effects are minimal and include nasal irritation, sneezing, and unpleasant taste.

Immunotherapy

Anaphylaxis may occur rarely.

Subgroups Most Likely to be Harmed:

- Oral decongestants should be used with caution in patients with unstable hypertension, ischemic heart disease, glaucoma, prostatic hypertrophy, or diabetes mellitus.
- Geriatric patients may be more sensitive to the effects of decongestants.
- Children and/or Long-term, Perennial Users of Nasal Corticosteroids:
    - Possible problematic side effects from nasal corticosteroids. (Refer to Table 7 in the original guideline document for details.)

CONTRAINDICATIONS

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Oral Decongestants

- Oral decongestants are contraindicated with monoamine oxidase inhibitors (MAOIs), in uncontrolled hypertension, and severe coronary artery disease.

QUALIFYING STATEMENTS

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These guidelines should not be construed as including all proper methods of care or excluding other acceptable methods of care reasonably directed to obtaining the same results. The ultimate judgment regarding any specific clinical procedure or treatment must be made by the physician in light of the circumstances presented by the patient.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

University of Michigan Health System. Allergic rhinitis. Ann Arbor (MI): University of Michigan Health System; 2002 Jul. 12 p. [3 references]

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 Jul

GUIDELINE DEVELOPER(S)

University of Michigan Health System - Academic Institution

SOURCE(S) OF FUNDING

University of Michigan Health System

GUIDELINE COMMITTEE

Allergic Rhinitis Guideline Team

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Team Members: Richard Orlandi, MD; James Baker, MD; Margie Andreae, MD; Daniel Dubay, MD; Steve Erickson, PharmD; Jeffrey Terrell, MD (Consultant)

Guidelines Oversight Team: Connie Standiford, MD; Lee Green, MD, MPH; Van Harrison, PhD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

The University of Michigan Health System endorses the Guidelines of the Association of American Medical Colleges and the Standards of the Accreditation Council for Continuing Medical Education that the individuals who present educational activities disclose significant relationships with commercial companies whose products or services are discussed. Disclosure of a relationship is not intended to suggest bias in the information presented, but is made to provide readers with information that might be of potential importance to their evaluation of the information.

Team Member	Company	Relationship
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GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available for download (in Portable Document Format [PDF]) from the University of Michigan Health System Web site.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI on January 7, 2003. The information was verified by the guideline developer on February 4, 2003.

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